PRODUCT SPECIFICATION SHEET

BD Matrigel™ Basement Membrane Matrix

Basement membranes are thin extracellular matrices underlying cells in vivo. BD Matrigel Basement Membrane Matrix is a solubilized basement membrane preparation extracted from the Engelbreth-Holm-Swarm (EHS) mouse sarcoma, a tumor rich in extracellular matrix proteins. Its major component is laminin, followed by collagen IV, heparan sulfate proteoglycans, entactin and nidogen.[1] It also contains TGF-beta, fibroblast growth factor, tissue plasminogen activator,[2] and other growth factors which occur naturally in the EHS tumor. BD Matrigel Matrix is effective for the attachment and differentiation of both normal and transformed anchorage dependent epithelioid and other cell types. These include neurons, oligodendrocytes, hepatocytes, Sertoli cells, chick lens, melanoma cells, vascular endothelial cells, thyroid cells and hair follicle cells.[3-6] BD Matrigel Matrix will influence gene expression in adult rat hepatocytes[7] as well as casein gene expression in mouse mammary epithelial cells.[8,9] It is the basis for several types of tumor cell invasion assays,[10-13] will support in vivo peripheral nerve regeneration,[14] facilitates differentiation of bovine oviduct epithelial cells,[15] and provides the substrate necessary for the study of angiogenesis.[16] For further information, ask for our Matrigel Basement Membrane Matrix applications brief and our extracellular matrix brochure.

CAUTION: BD MATRIGEL MATRIX WILL GEL RAPIDLY AT 22°C TO 35°C. THAW AT 4°C OVERNIGHT ON ICE (MATRIGEL MAY GEL AT SLIGHTLY ELEVATED TEMPERATURES IN A REFRIGERATOR). KEEP PRODUCT ON ICE BEFORE USE. USE PRE-COOLED PIPETTES, PLATES AND TUBES WHEN PREPARING BD MATRIGEL BASEMENT MEMBRANE MATRIX FOR USE. GELLED MATRIGEL MAY BE RE-LIQUIFIED IF PLACED AT 4°C ON ICE FOR 24-48 HOURS.

CATALOG NUMBER: 354234 LOT NUMBER: NA

SOURCE: Engelbreth-Holm-Swarm (EHS) Mouse Tumor

QUANTITY: Protein concentration values are calculated for each Lot. The total quantity is 10 milliliters, at 10.0-12.0 (typical range) milligrams per milliliter.

FORMULATION: Dulbecco's Modified Eagle's Medium with 10 µg/ml gentamycin. BD Matrigel Matrix is compatible with all culture media.

USE: See caution above. Please note that color variations may occur in frozen or thawed vials of BD Matrigel Matrix. Color may range from straw yellow to dark red due to the interaction of carbon dioxide with the bicarbonate buffer and phenol red. Variation in color is normal and does not affect product efficacy. Color variations will disappear upon equilibration with 5% CO_2. Once BD Matrigel Matrix is thawed, swirl vial to be sure that material is evenly dispersed. Handle using sterile technique. Place thawed vial of BD Matrigel Matrix in sterile area, wipe top of vial with 70% ETOH and air dry. BD Matrigel Matrix may be gently pipetted using a pre-cooled pipette to ensure homogeneity.

BD Matrigel Matrix may be used as a thin gel layer (0.5 mm), with cells plated on top. Cells may also be cultured inside the BD Matrigel Matrix, using a 1 mm layer. Extensive dilution will result in a thin, non-gelled protein layer. This may be useful for cell attachment, but may not be as effective in differentiation studies.

See page 3 for coating instructions.

BD Biosciences
Clontech
Discovery Labware
Immunocytometry Systems
Pharmingen

BD Biosciences Discovery Labware
Two Oak Park, Bedford, MA 01730, tel: 800.343.2035, fax: 800.743.6200, www.bdbiosciences.com

BD

Dispense remaining material into appropriate aliquots, using pre-cooled tubes, and refreeze immediately. Avoid multiple freeze thaws. **DO NOT STORE IN FROST-FREE FREEZER.**

QUALITY CONTROL: BD Matrigel™ Matrix has been tested for the presence of bacteria, fungi and mycoplasma.

Endotoxin units/milliliter for each Lot are calculated by Limulus Amoebocyte Lysate. This value typically ranges from 0.5-32.0 EU/ml.

BD Matrigel Matrix is tested for its ability to gel quickly and maintain this form with culture media for a period of 12 days at 37°C.

Biological activity is determined for each lot using a neurite outgrowth assay. Chick dorsal root ganglia are plated on a 1.0 mm layer of BD Matrigel Matrix. This lot produced a positive neurite outgrowth response after 48 hours without addition of nerve growth factor.

STABILITY: Stable for a minimum of 3 months from day of shipment when stored at -20°C. **KEEP FROZEN**.

CELL RECOVERY: Dispase (Catalog No. 354235), BD™ Cell Recovery Solution (Catalog No 354253)

Most efficient recovery of cells growing on BD Matrigel Matrix is accomplished using BD Cell Recovery Solution that depolymerizes the BD Matrigel Matrix within 7 hours on ice or with Dispase, a metalloenzyme which gently releases the cells allowing for continuous culture.

REFERENCES:

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California Proposition 65 Notice

WARNING:	This product contains a chemical known to the state of California to cause cancer.
Component:	Chloroform

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES

COATING PROCEDURES

BD Matrigel™ Matrix may be used in several ways. The Thin Gel Method is useful for plating cells on top of the gel, the Thick Gel Method allows you to grow cells within a three dimensional matrix, and the Thin Coating Method (no gel) provides you with a complex protein layer on top of which to grow your cells. Make your selection based on the final result that you wish to achieve, whether it be cell growth, attachment or differentiation.

NOTE: Some investigators prefer to dilute BD Matrigel Matrix. If you wish to maintain a gelled consistency, do not dilute more than 1:3. Use serum-free medium to dilute BD Matrigel Matrix. Once gelled, BD Matrigel Matrix should be used right away.

Thin Gel Method

1) Thaw BD Matrigel Matrix as recommended on page 1. Using cooled pipettes, mix the BD Matrigel Matrix to homogeneity.

2) Keeping culture plates on ice, add fifty microliters per square centimeter of growth surface.

3) Place plates at 37°C for 30 minutes. Plates are now ready to use.

Thick Gel Method

1) Thaw BD Matrigel Matrix as recommended on page 1. Using cooled pipettes, mix the BD Matrigel Matrix to homogeneity.

2) Keep culture plates on ice. Add cells to BD Matrigel Matrix and suspend using cooled pipettes. Add 150-200 microliters per square centimeter of growth surface.

3) Place plates at 37°C for 30 minutes. Culture medium may now be added. Cells may also be cultured on top of this gel.

Thin Coating Method

1) Thaw BD Matrigel Matrix as recommended on page 1. Using cooled pipettes, mix the BD Matrigel Matrix to homogeneity.

2) Dilute BD Matrigel Matrix to desired concentration using serum-free medium. You will have to do empirical studies to determine the optimal coating concentration for your application.

3) Add diluted BD Matrigel Matrix to vessel to be coated. Quantity should be sufficient to cover entire growth surface easily. Incubate at room temperature for one hour.

4) Aspirate unbound material and rinse gently using serum-free medium. Plates are now ready to use.

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